

WE CLAIM

1. A method of mediating cell traffic between an asynchronous transmission mode (ATM) network and an adjacent network, each cell in said cell traffic having a set of transmission parameters related to said ATM network and a respective ATM connection for said cell, said
5 method comprising:

- (i) identifying for said cell an egress queue family by utilizing a first set of parameters from said set of transmission parameters;
- (ii) associating with said cell one of a predefined number of egress class of service (COS) levels by mapping a second set of parameters from said set of transmission parameters into one
10 of said egress COS levels;
- (iii) utilizing said egress COS level associated with said cell to select an egress queue member of said egress queue family identified in step (i), said selected egress queue member being associated with said egress COS level associated with said cell in step (ii); and
- (iv) providing said cell to said identified queue member for forwarding to said another
15 network.

2. A method as claimed in claim 1, wherein said first set of parameters comprises a real-time connection indication and a resource reserved indication.

20 3. A method as claimed in claim 2, wherein said second set of parameters comprises at least an ATM quality of service parameter and a service category parameter.

4. A method as claimed in claim 3, wherein for said second set of parameters, said ATM quality of service parameters comprise a cell loss ratio parameter and a cell delay variation parameter.

5. A method as claimed in claim 4, wherein said egress queue family in step (i) is one of a real-time (R-T) queue family, a resources reserved (RR) queue family, and a non-resources reserved (nRR) queue family.

6. A method as claimed in claim 5, wherein said R-T queue family comprises a single R-T queue member having a predefined minimum bandwidth.

7. A method as claimed in claim 5, wherein said RR queue family comprises eight RR queue members, each said RR queue member having a minimum bandwidth proportional to a weight assigned to each egress COS level associated with each said RR queue.

8. A method as claimed in claim 5, wherein said non-resources reserved queue family comprises eight nRR queue members, each said nRR queue member having a relative queue priority corresponding to an egress COS level associated with each said nRR queue.

9. A system for mediating cell traffic between an asynchronous transmission mode (ATM) network and an adjacent network, each cell in said cell traffic having a set of transmission parameters related to said ATM network and a respective ATM connection for said cell, said system comprising:

- (a) an identifier for utilizing a first set of parameters from said set of transmission parameters to identify an egress queue family for said cell;
- (b) a translator for translating a second set of parameters from said set of transmission parameters to an egress class of service (COS) level associated with said cell; and
- 5 (c) a selector for selecting an egress queue member of said egress queue family to forward said cell to said another network, said selected egress queue member being associated with said egress COS level associated with said cell.

10 10. A system as claimed in claim 9, wherein said first set of parameters comprises a real-time connection indication and a resource reserved indication.

11. A system as claimed in claim 10, wherein said second set of parameters comprises at least an ATM quality of service parameter and a service category parameter.

15 12. A system as claimed in claim 11, wherein for said second set of parameters, said ATM quality of service parameters comprise a cell loss ratio parameter and a cell delay variation parameter.

20 13. A system as claimed in claim 12, wherein said egress queue family is one of a real-time (R-T) queue family, a resources reserved (RR) queue family, and a non-resources reserved (nRR) queue family.

14. A system as claimed in claim 13, wherein said R-T queue family comprises a single R-T queue member having a predefined minimum bandwidth.

15. A system as claimed in claim 13, wherein said RR queue family comprises eight RR queue members, each said RR queue member having a minimum bandwidth proportional to a weight assigned to each egress COS level associated with each said RR queue.

16. A system as claimed in claim 13, wherein said non-resources reserved queue family comprises eight nRR queue members, each said nRR queue member having a relative queue priority corresponding to an egress COS level associated with each said nRR queue.

17. A method of mediating cell traffic flows at a mediation connection between networks in a multi-protocol heterogeneous network, each cell traffic flow having associated thereto a set of transmission parameters, said method comprising:

- (i) identifying for said cell traffic flow an egress queue type by utilizing a first set of parameters from said set of transmission parameters;
- (ii) associating with said cell traffic flow one of a predefined number of egress class of service (COS) levels by mapping a second set of parameters from said set of transmission parameters into one of said egress COS levels;
- (iii) utilizing said egress COS level associated with said cell traffic flow to select an egress queue member of said egress queue family identified in step (i), said selected egress queue member being associated with said egress COS level associated with said cell traffic flow in step (ii); and

(iv) directing said cell traffic flow to said identified queue member for forwarding to said another network.

18. The method claimed in claim 17, wherein MPLS, IP and ATM mediation traffic flows co-exist at said mediation connection, and each of said MPLS, IP and ATM mediation traffic

5 flows are associated with one of said egress queue types, and one of said egress COS levels.

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